

Amendments to the Specification:

Please amend the title to read: METHOD AND APPARATUS FOR RECORDING DATA ON AN OPTICAL DISC.

On page 5, line 1, please insert the following new paragraphs:

Embodiment may include some of the following features.

The counter counts includes a first counter for generating a first count value by counting units of a predetermined data amount, the predetermined data amount units each being obtained by dividing a minimum unit of a disc format by a predetermined integer, the disc format including address information, wherein the first counter is initialized when the first count value reaches the minimum unit; and a second counter for generating a second count value by counting the data in bit units, wherein the second counter is initialized when the second count value becomes equal to the predetermined data amount unit of the first counter. The control unit stores at least the first counter value of the first counter. The first and second counter each perform counting prior to the restart of the recording in correspondence with the position of the optical disc re-irradiated by the laser beam. The data recording equipment further comprises an information memory device for storing a history of the initialization of the first counter when the recording is interrupted; and the control unit controls restart of the recording using at least the first count value stored therein and the first count value counted prior to the restart of recording after confirming that the history stored in the information memory device matches the position of the optical disc re-irradiated by the laser beam.

The data recording equipment further comprises a demodulation circuit for reproducing disc position information that is recorded on the optical disc from the position re-irradiated by the laser beam before the recording is restarted; and an information memory device connected to the demodulation circuit for storing the disc position information when the recording is interrupted. The counter counts includes a first counter and a second counter, wherein the first counter counts units of a predetermined data amount to generate a first count value, the predetermined data amount units each being obtained by dividing a minimum unit of a disc

format by a predetermined integer. The disc format includes address information, wherein the first counter is initialized when the first count value reaches the minimum unit, wherein the second counter counts the data in bit units to generate a second count value, the second counter being initialized when the second count value becomes equal to the predetermined data amount unit of the first counter. The first and second counter each perform counting prior to the restart of the recording in relation with the position of the optical disc re-irradiated by the laser beam; and wherein the control unit controls restart of the recording using at least the first count value stored therein and the first count value counted prior to the restart of recording after detecting matching of the disc position information reproduced before the recording is restarted and the disc position information stored in the information memory device.

The controller further comprises a decoder for reading disc position information, which is recorded on the optical disc, from a reflection light of the laser beam; and a disc position information memory for storing the disc position information read from the decoder when the recording is interrupted. In this embodiment, the counter includes a first counter for generating a first count value by counting units of a predetermined data amount, the predetermined data amount units each being obtained by dividing a minimum unit of a disc format by a predetermined integer, the disc format including address information, wherein the first counter is initialized when the first count value reaches the minimum unit; and a second counter for generating a second count value by counting the data in bit units, wherein the second counter is initialized when the second count value becomes equal to the predetermined data amount unit of the first counter. The control unit stores the first counter value of the first counter and the second count value of the second counter and restarts the recording of data when the first and second count values generated prior to the restart of the recording matches the first and second count values stored therein after confirming that the disc position information read prior to the restart of the recording matches the disc information position stored in the disc position information memory.

In another embodiment, the controller further comprises an encoder connected to the control unit for encoding data and generating encoded data in synchronism of the first and

second count values of the first and second counters. The encoder includes the first counter and the second counter. The encoder performs an eight-to-fourteen modulation on data and generates modulated data.

The controller further comprises a decoder for reading disc position information, which is recorded on the optical disc, from a reflection light of the laser beam; and a disc position information memory for storing the disc position information read from the decoder when the recording is interrupted. In this embodiment, the counter includes a first counter for generating a first count value by counting units of a predetermined data amount, the predetermined data amount units each being obtained by dividing a minimum unit of a disc format, the disc format including address information, wherein the first counter is initialized when the first count value reaches the minimum unit; and a second counter for generating a second count value by counting the data in bit units, wherein the second counter is initialized when the second count value becomes equal to the predetermined data amount unit of the first counter. The control unit stores the first count value of the first counter and restarts the recording of data when the first count value generated prior to the restart of the recording matches the first count value stored therein after confirming that the disc position information read prior to the restart of the recording matches the disc information position stored in the disc position information memory.

The method for controlling recording data may include one or more of the following features. The counter includes a first counter for generating a first count value by counting units of a predetermined data amount, the predetermined data amount units each being obtained by dividing a minimum unit of a disc format by a predetermined integer, the disc format including address information, wherein the first counter is initialized when the first count value reaches the minimum unit; and a second counter for generating a second count value by counting the data in bit units, wherein the second counter is initialized when the second count value becomes equal to the predetermined data amount unit of the first counter. The method further includes the steps of storing at least the first count value of the first counter and a value related with a history of initialization of the first counter in the memory; generating the first count value in correspondence with a position irradiated by the laser beam using at least the first counter prior

to the restart of the recording; confirming that the value related with the history of initialization that is stored in the memory matches the position irradiated by the laser beam; and restarting the recording based on at least the first count value stored in the memory and the first count value generated prior to the restart of the recording.

In another method, the steps include storing at least the first count value of the first counter and disc position information recorded on the optical disc in the memory; reproducing the disc position information from a position irradiated by the laser beam prior to the restart of the recording; generating the first count value in correspondence with the position irradiated by the laser beam using at least the first counter prior to the restart of the recording; detecting whether the disc position information stored in the memory matches reproduced disc information; and restarting the recording based on at least the first count value stored in the memory and the first count value generated prior to the restart of the recording.